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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,073

04/27/2007

Minoru Ishijima

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10/13/2009

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT

PAPER NUMBER

3679

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,073	<b>Applicant(s)</b> ISHIJIMA ET AL.	
	<b>Examiner</b> Greg Binda	<b>Art Unit</b> 3679	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 3679

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Drawings*

2. Figures 1B, 9 & 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

3. The drawings are objected to because the drawings contradict each other. Figs. 3 & 7 are supposed to show the claimed invention, but in Fig. 3 the shaft 2 is attached to the inner joint part 20 in a manner consistent with the comparative example in Fig. 9, not Fig. 7.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

Art Unit: 3679

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

5. The disclosure is objected to because:

- a. The sentence which bridges pages 10 & 11 is nonsensical.
- b. The allegations made at page 11, lines 12+ are not backed up by the drawings.

The description there alleges that Fig. 8 clearly shows a small hysteresis and Fig. 10 clearly shows a large hysteresis, but there is barely any difference between the drawings. There is no clarity like that alleged in the description.

*Claim Rejections - 35 USC § 112*

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 4 & 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 4 recites the limitation, “the ball tracks include an expanded side . . . such that the inner joint member is pushed out to the expanded side”. There is no support for the

Art Unit: 3679

limitation in the application as originally filed. To the contrary, in the application as originally filed (see particularly page 9, lines 1-5), the inner joint member 20 is disclosed as being pushed to the opening side, but the expanded side is disclosed as being at the innermost or opposite side.

8. Claims 1- 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1 recites the limitation, “a torsional angle” but does not recite where in relation to the previously recited claim elements, the angle is measured.

b. Claims 1 & 2 recite the limitation, “input torque” but do not recite where in relation to the previously recited claim elements, the torque is applied.

c. Claim 2 recites the limitation, “a torsional rigidity” but does not recite where in relation to the previously recited claim elements, the rigidity is produced.

*Claim Rejections - 35 USC § 102*

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 3-5, 9 & 11 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art. The admitted prior art at Figs. 9 & 10 shows a fixed type constant velocity

Art Unit: 3679

joint 1 that comprises an outer joint, an inner joint, balls and a cage, and at Fig. 1B shows a torsional angle in a torque-torsional angle diagram is 0 at the time of input torque 0 Nm.

*Claim Rejections - 35 USC § 103*

12. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al, US 2003/0083135 (Yamazaki). Fig. 5 shows a fixed type constant velocity joint comprising an outer joint member 1 formed with axially extending ball grooves 1a at circumferentially equispaced positions on the inner spherical surface 1b, an inner joint member 2 formed with axially extending ball grooves 2a at circumferentially equispaced positions on the outer spherical surface 2b, balls 3 disposed in wedge-shaped ball tracks defined by the ball grooves of the outer and inner joint members, and a cage 4 interposed between the inner spherical surface of the outer joint member and the outer spherical surface of the inner joint member to hold the balls. Fig. 5 shows that a pressing section 10 which axially applies an elastic pressing force 12 is provided on the inner joint member 2 side, and the cage 4 is provided with a receiving section 15 which receives a pressing force from said pressing section. Yamazaki discloses in paragraph 0046 that the fixed type constant velocity joint is used for steering devices.

Yamazaki does not expressly disclose that at an input torque equal to zero the torsional angle is 0 and the torsional rigidity is in the range of 1.5 Nm/deg to 6 Nm/deg. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the torsional angle equal to 0 and the torsional rigidity of the joint in a range of 1.5 Nm/deg to 6 Nm/deg when the input torque is zero, since it has been held that where the general

Art Unit: 3679

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056.

*Response to Arguments*

13. Applicant's arguments filed August 11, 2009 have been fully considered, but they are not persuasive. Applicant argues that the claims are patentable because Yamazaki allegedly fails to disclose torsional angle and torsional rigidity. However, Yamazaki is focused entirely on a torque transmitting universal joint that necessarily comprises capabilities with regard to torsional angle and torsional rigidity whether it expressly mentions them or not. One skilled in the art could not build the invention of Yamazaki without it having specific torsional angle and rigidity characteristics. Therefore it is reasonable to conclude that one skilled in the art would optimize those characteristics.

*Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 3679

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 10:30 am to 8:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg Binda/  
Primary Examiner, Art Unit 3679